0111

J OIPE

RAW SEQUENCE LISTING

DATE: 01/16/2002 TIME: 18:33:08

PATENT APPLICATION: US/09/993,234

• •

Input Set : N:\Crf3\RULE60\09993234.raw
Output Set: N:\CRF3\01162002\I993234.raw

SEQUENCE LISTING

```
3 (1) GENERAL INFORMATION:
      5
             (i) APPLICANT: Ashkenazi, Avi J.
            (ii) TITLE OF INVENTION: Apo-2 LI AND Apo-3 POLYPEPTIDES
      7
      9
           (iii) NUMBER OF SEQUENCES: 11
     11
            (iv) CORRESPONDENCE ADDRESS:
     12
                  (A) ADDRESSEE: Genentech, Inc.
                  (B) STREET: 460 Point San Bruno Blvd
     13
                                                                ENTERED
                  (C) CITY: South San Francisco
     14
     15
                  (D) STATE: California
     16
                  (E) COUNTRY: USA
                  (F) ZIP: 94080
     17
     19
             (V) COMPUTER READABLE FORM:
                  (A) MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
     20
                  (B) COMPUTER: IBM PC compatible
     21
                  (C) OPERATING SYSTEM: PC-DOS/MS-DOS
     22
     23
                  (D) SOFTWARE: WinPatin (Genentech)
     25
            (vi) CURRENT APPLICATION DATA:
                  (A) APPLICATION NUMBER: US/09/993,234
C--> 26
C--> 27
                  (B) FILING DATE: 19-Nov-2001
                  (C) CLASSIFICATION:
     28
           (vii) PRIOR APPLICATION DATA:
     30
                  (A) APPLICATION NUMBER: 08/828,683
     31
     32
                  (B) FILING DATE:
     36
          (viii) ATTORNEY/AGENT INFORMATION:
     37
                  (A) NAME: Marschang, Diane L.
                  (B) REGISTRATION NUMBER: 35,600
     38
     39
                  (C) REFERENCE/DOCKET NUMBER: P1007P1
            (ix) TELECOMMUNICATION INFORMATION:
     41
     42
                  (A) TELEPHONE: 415/225-5416
                  (B) TELEFAX: 415/952-9881
     43
     44
                  (C) TELEX: 910/371-7168
        (2) INFORMATION FOR SEQ ID NO: 1:
     46
     48
             (i) SEQUENCE CHARACTERISTICS:
     49
                  (A) LENGTH: 181 amino acids
     50
                  (B) TYPE: Amino Acid
     51
                  (D) TOPOLOGY: Linear
     53
            (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:
     55
         Met Glu Gln Arg Pro Arg Gly Cys Ala Ala Val Ala Ala Ala Leu
     56
                                                                    15
                                               10
         Leu Leu Val Leu Leu Gly Ala Arg Ala Gln Gly Gly Thr Arg Ser
     58
     59
                                                25
     61
         Pro Arg Cys Asp Cys Ala Gly Asp Phe His Lys Lys Ile Gly Leu
     62
                           35
                                                40
     64
         Phe Cys Cys Arg Gly Cys Pro Ala Gly His Tyr Leu Lys Ala Pro
     65
                           50
                                               55
```

Cys Thr Glu Pro Cys Gly Asn Ser Thr Cys Leu Val Cys Pro Gln

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Input Set : N:\Crf3\RULE60\09993234.raw
Output Set: N:\CRF3\01162002\1993234.raw

```
68
                                          70
                                                              75
70
   Asp Thr Phe Leu Ala Trp Glu Asn His His Asn Ser Glu Cys Ala
71
                     80
                                         85
73
   Arq Cys Gln Ala Cys Asp Glu Gln Ala Ser Gln Val Ala Leu Glu
74
                                         100
76
   Asn Cys Ser Ala Val Ala Asp Thr Arg Cys Gly Cys Lys Pro Gly
                                                             120
77
                    110
                                         115
79
   Trp Phe Val Glu Cys Gln Val Ser Gln Cys Val Ser Ser Pro
                    125
                                         130
80
   Phe Tyr Cys Gln Pro Cys Leu Asp Cys Gly Ala Leu His Arg His
82
83
85
   Thr Arg Leu Cys Ser Arg Arg Asp Thr Asp Cys Gly Thr Cys
86
                                         160
                                                             165
                    155
88
   Leu Pro Gly Phe Tyr Glu His Gly Asp Gly Cys Val Ser Cys Pro
89
                                         175
                                                             180
91
   Thr
   181
92
94 (2) INFORMATION FOR SEQ ID NO: 2:
96
        (i) SEQUENCE CHARACTERISTICS:
97
             (A) LENGTH: 433 base pairs
98
             (B) TYPE: Nucleic Acid
99
             (C) STRANDEDNESS: Single
100
              (D) TOPOLOGY: Linear
        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:
102
105
     CTGCTGGGGG CCCGGGCCAG NGGCGGCACT CGTAGCCCCA GGTGTGACTG 50
     TGCCGGTGAC TTCCACAAGA AGATTGGTCT GTTTTGTTGC AGAGGCTGCC 100
107
    CAGCGGGGCA ACTACCTGAA GGCCCCTTGC ACGGAGCCCT GCGCAACTCC 150
109
    ACCTGCCTTG TGTGTCCCCA AGACACCTTC TTGGCCTGGG AGAACCACCA 200
111
    TAATTCTGAA TGTGCCCGCT GCCAGGCCTG TGATGAGCAG GCCTCCCAGG 250
    TGGCGCTGGA GAACTGTTCA GCAGTGGCCG ACACCCGCTG TGGCTGTAAG 300
115
    CAGGGCTGGT TTGTGGAGTG CCAGGGTCAG CCAATGTGTC AGCAGTTTCA 350
117
    CCCTTCTAAT GCCAACCATG CCTAGACTGC GGGGCCCTGC AACGCAACAC 400
119
121 ACGGCTAATN TGTTTCCCGC AGAGATNATT GTT 433
123 (2) INFORMATION FOR SEQ ID NO: 3:
         (i) SEQUENCE CHARACTERISTICS:
126
              (A) LENGTH: 28 base pairs
127
              (B) TYPE: Nucleic Acid
128
              (C) STRANDEDNESS: Single
              (D) TOPOLOGY: Linear
129
131
        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:
    CCCGCTGCCA GGCCTGTGAT GAGCAGGC 28
136 (2) INFORMATION FOR SEQ ID NO: 4:
138
         (i) SEQUENCE CHARACTERISTICS:
139
              (A) LENGTH: 28 base pairs
140
              (B) TYPE: Nucleic Acid
141
              (C) STRANDEDNESS: Single
142
              (D) TOPOLOGY: Linear
144
        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:
     CAGGGCCCCG CAGTCTAGGC ATGGTTGG 28
```

RAW SEQUENCE LISTING PATENT APPLICATION: US/09/993,234

DATE: 01/16/2002 TIME: 18:33:08

Input Set : N:\Crf3\RULE60\09993234.raw
Output Set: N:\CRF3\01162002\1993234.raw

```
149 (2) INFORMATION FOR SEQ ID NO: 5:
        (i) SEQUENCE CHARACTERISTICS:
151
152
              (A) LENGTH: 1438 base pairs
153
              (B) TYPE: Nucleic Acid
154
              (C) STRANDEDNESS: Single
155
              (D) TOPOLOGY: Linear
        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 5:
157
     GAATTCCGGC GCGGAGGCCG AGAGAGAGT CACTTGCCCT GGCTCTACCT 50
160
     TGAAGTGGTT CTCAGGGTTG GGGCGAGAGT CGGGGTGGGG ACCGAGATGC 100
162
     AGCTCTATCC TGTGCCCCTG GTCGCAGCAG GCAGCCCAGC GCTTCGCGTG 150
164
     TTCTACTTGG CCTGTCCGCT GCCGCCTAAT GAGCTCAGGT CTAGGCCGAG 200
166
     CAGAGGGGC ACCTGGTCGG ACTCGGTTGG GCTCGGGCGG CCCCGCCTCC 250
168
    CCCCGCCCGC CAGGCGGCC CTTCTCGACG GCGCGGGGCG GGCCCTGCGG 300
170
    GCGCGGGGCT GAAGGCGGAA CCACGACGGG CAGAGAGCAC GGAGCCGGGA 350
172
    AGCCCCTGGG CGCCCGTCGG AGGGCTATGG AGCAGCGGCC GCGGGGCTGC 400
174
176 GCGGCGGTGG CGGCGGCGCT CCTCCTGGTG CTGCTGGGGG CCCGGGCCCA 450
178 GGGCGCACT CGTAGCCCCA GGTGTGACTG TGCCGGTGAC TTCCACAAGA 500
    AGATTGGTCT GTTTTGTTGC AGAGGCTGCC CAGCGGGGCA CTACCTGAAG 550
180
182 GCCCCTTGCA CGGAGCCCTG CGGCAACTCC ACCTGCCTTG TGTGTCCCCA 600
    AGACACCTTC TTGGCCTGGG AGAACCACCA TAATTCTGAA TGTGCCCGCT 650
184
186 GCCAGGCCTG TGATGAGCAG GCCTCCCAGG TGGCGCTGGA GAACTGTTCA 700
    GCAGTGGCCG ACACCCGCTG TGGCTGTAAG CCAGGCTGGT TTGTGGAGTG 750
    CCAGGTCAGC CAATGTGTCA GCAGTTCACC CTTCTACTGC CAACCATGCC 800
190
     TAGACTGCGG GGCCCTGCAC CGCCACACAC GGCTACTCTG TTCCCGCAGA 850
192
     GATACTGACT GTGGGACCTG CCTGCCTGGC TTCTATGAAC ATGGCGATGG 900
194
    CTGCGTGTCC TGCCCCACGT AATTCCTAGC TGTCGTGGGA TGGAGGGAAG 950
196
198 GGCGGCTGGG AGCAGAGCAG GGGCCTGGGG TGGGGCAGGT GCTGCTGGTT 1000
    CAGGAATAGG AAGAGGGGAT AGGGAGGAGG GAGCCTTGGC CCTGTGATGG 1050
200
202 GTGGGCCCCA CTTCAGGCAA ACTTAGATGG CAAAAGAGCA ATCTGGATCC 1100
    GCCTTAGCCA GATACATAAG GGTATTTGCC TTCACTTTCA GCCAGCATTC 1150
204
206 CCCCCAGCGA TCCTAGCCAG ATATTACAGA TGATTTGTCA CTTACACAGA 1200
    GAGTCACATT GATATAGCTT TAAAACTTGG GCTGAAGGAG GTTGAGGCTG 1250
208
210 CAGTGAGCTA TGATCGTGCC ACTGCACTTC AGCCTGGGCA ACAGAGCGAG 1300
212 ACCTATTAAA TAAATAAATA AATATTAAAT CTATTAAATA TTAAATATTA 1350
214 AATCTATTAA ATAAATAAAT ACAAAGGGCT GAGAGTCAGG ACTGTGCTGC 1400
216 TAGTTCTCTA GGGGATCTTG GGCAAGTGCA GAGAATTC 1438
218 (2) INFORMATION FOR SEQ ID NO: 6:
220
         (i) SEQUENCE CHARACTERISTICS:
221
              (A) LENGTH: 417 amino acids
              (B) TYPE: Amino Acid
222
223
              (D) TOPOLOGY: Linear
225
        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 6:
227
    Met Glu Gln Arg Pro Arg Gly Cys Ala Ala Val Ala Ala Ala Leu
228
                                          10
230
    Leu Leu Val Leu Leu Gly Ala Arg Ala Gln Gly Gly Thr Arg Ser
231
233
    Pro Arg Cys Asp Cys Ala Gly Asp Phe His Lys Lys Ile Gly Leu
234
                      35
                                          40
236
    Phe Cys Cys Arg Gly Cys Pro Ala Gly His Tyr Leu Lys Ala Pro
```

RAW SEQUENCE LISTING

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PATENT APPLICATION: US/09/993,234

Input Set : N:\Crf3\RULE60\09993234.raw
Output Set: N:\CRF3\01162002\I993234.raw

| 237 | | | | | 50 | | | | | 55 | | | | | 60 |
|------------|--------|--------------|-------------|------------|------------|-------|------|-----|------|-----|----------|----------|-----------|-------------|-----|
| 239 | Cys | Thr | Glu | Pro | Cys | Gly | Asn | Ser | Thr | Cys | Leu | Val | Cys | ${\tt Pro}$ | Gln |
| 240 | | | | | 65 | | | | | 70 | | | | | 75 |
| 242 | Asp | Thr | Phe | Leu | Ala | Trp | Glu | Asn | His | His | Asn | Ser | Glu | Cys | Ala |
| 243 | | | | | 80 | | | | | 85 | | | | | 90 |
| 245 | Arg | Cys | Gln | Ala | Cys | Asp | Glu | Gln | Ala | Ser | Gln | Val | Ala | Leu | Glu |
| 246 | | | | | 95 | | | | | 100 | | | | | 105 |
| 248 | Asn | Cys | Ser | Ala | | Ala | Asp | Thr | Arg | | Gly | Cys | Lys | Pro | |
| 249 | • | | _ | | 110 | | | _ | | 115 | - | _ | _ | _ | 120 |
| 251 | Trp | Phe | Val | Glu | _ | Gln | Val | Ser | GIn | _ | Val | Ser | Ser | ser | |
| 252 | | _ | _ | | 125 | _ | | | | 130 | | | *** | | 135 |
| 254 | Phe | Tyr | Cys | Gln | | Cys | Leu | Asp | Cys | | Ата | Leu | HIS | Arg | |
| 255 | m\ | 3 | 7 | T | 140 | O | 3 | N | 3 | 145 | 3 | a | c1 | mhm | 150 |
| 257 | Thr | Arg | Leu | Leu | 155 | ser | Arg | Arg | ASP | 160 | ASP | Cys | GIY | THE | 165 |
| 258 | T 0.11 | Dwo | C1 | Dho | | C1 | uio | C1 | 7 00 | | Crra | Wa 1 | Cor | Crrc | |
| 260 261 | ьeu | PIO | GIY | Phe | 171 170 | GIU | птѕ | GIY | ASP | 175 | Cys | Val | ser | Суѕ | 180 |
| 263 | Thr | Sor | Thr | Leu | | Sor | Cve | Dro | Glu | | Cve | Δla | Δla | Va 1 | |
| 264 | 1111 | 261 | 1111 | пец | 185 | Ser | Cys | FIU | GIU | 190 | Cys | niu | nia | Vai | 195 |
| 266 | Glv | Trn | Arα | Gln | | Phe | Tro | Val | Gln | | Len | Leu | Ala | Glv | |
| 267 | 011 | | **** 9 | 01 | 200 | | | , | 0 | 205 | | | ~ | O-1 | 210 |
| 269 | Val | Val | Pro | Leu | | Leu | Glv | Ala | Thr | | Thr | Tvr | Thr | Tvr | |
| 270 | , | , | | | 215 | | .0-1 | | | 220 | | -1- | | - 2 - | 225 |
| 272 | His | Cvs | Trp | Pro | | Lys | Pro | Leu | Val | | Ala | Asp | Glu | Ala | |
| 273 | | . 4 | • | | 230 | • | | | | 235 | | • | | | 240 |
| 275 | Met | Glu | Ala | Leu | Thr | Pro | Pro | Pro | Ala | Thr | His | Leu | Ser | Pro | Leu |
| 276 | | | | | 245 | | | | | 250 | | | | | 255 |
| 278 | Asp | Ser | Ala | His | Thr | Leu | Leu | Ala | Pro | Pro | Asp | Ser | Ser | Glu | Lys |
| 279 | | | | | 260 | | | | | 265 | | | | | 270 |
| 281 | Ile | Cys | Thr | Val | Gln | Leu | Val | Gly | Asn | Ser | Trp | Thr | Pro | Gly | Tyr |
| 282 | | | | | 275 | | | | | 280 | | | | | 285 |
| 284 | Pro | Glu | Thr | Gln | Glu | Ala | Leu | Cys | Pro | Gln | Val | Thr | Trp | Ser | Trp |
| 285 | | | | | 290 | | | | | 295 | | | | | 300 |
| 287 | Asp | Gln | Leu | Pro | | Arg | Ala | Leu | Gly | | Ala | Ala | Ala | Pro | |
| 288 | | | | _ | 305 | | _ | | | 310 | _ | | | _ | 315 |
| 290 | Leu | Ser | Pro | Glu | | Pro | Ala | Gly | Ser | | Ala | Met | Met | Leu | |
| 291 | _ | | _ | | 320 | _ | _ | | | 325 | | | _ | | 330 |
| 293 | Pro | GLY | Pro | Gln | | Tyr | Asp | vaı | Met | - | Ala | Val | Pro | АТа | _ |
| 294 | | | . | a 1 | 335 | **- 1 | | m1 | T | 340 | + | 3 | 01 | | 345 |
| 296 | Arg | Trp | гаг | Glu | 350 | val | Arg | Thr | ьeu | 355 | ьeu | Arg | GIU | Ald | |
| 297 | T1. | C1. , | 31 0 | Val | | 370.1 | C1 | т1. | c1 | | Dho | 7 ~~ | 7 00 | C1 n | 360 |
| 299 300 | TTE | GIU | Ald | Val | 365 | Val | Giu | TIE | СТА | 370 | Pne | AIG | ASP | GTII | 375 |
| 302 | Птт~ | C1., | Mot | Leu | | 7 20 | T rr | λνα | Cln | | Gln | Dro | λlsi | Cl v | |
| 302 | тăт | GIU | mec | ьец | 380 | AIG | пр | AIG | GIII | 385 | GIII | PIO | AIG | GIY | 390 |
| 305 | Glv | Δla | Val | Tyr | | Δla | T.eu | Glu | Δτα | | Glv | T.e. | Aen | Glv | |
| 306 | GLY | пта | , u I | - Y - | 395 | .T.U | LCu | JIU | 9 | 400 | O-Y | 2Cu | .,,51 | | 405 |
| 308 | Val | Glu | Asp | Leu | | Ser | Arσ | Leu | Gln | | Glv | Pro | | | |
| 309 | | | | | 410 | | 7 | | | 415 | 1 | 417 | | | |
| | | | | | | | | | | | | | | | |

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PATENT APPLICATION: US/09/993,234

Input Set : N:\Crf3\RULE60\09993234.raw
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```
311 (2) INFORMATION FOR SEQ ID NO: 7:
        (i) SEQUENCE CHARACTERISTICS:
313
314
             (A) LENGTH: 27 base pairs
315
             (B) TYPE: Nucleic Acid
             (C) STRANDEDNESS: Single
316
317
              (D) TOPOLOGY: Linear
        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 7:
322 GGCGCTCTGG TGGCCCTTGC AGAAGCC 27
324 (2) INFORMATION FOR SEQ ID NO: 8:
326
        (i) SEQUENCE CHARACTERISTICS:
             (A) LENGTH: 25 base pairs
327
328
             (B) TYPE: Nucleic Acid
329
             (C) STRANDEDNESS: Single
             (D) TOPOLOGY: Linear
330
332
        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 8:
335
    TTCGGCCGAG AAGTTGAGAA ATGTC 25
337 (2) INFORMATION FOR SEQ ID NO: 9:
339
        (i) SEQUENCE CHARACTERISTICS:
340
             (A) LENGTH: 1634 base pairs
341
             (B) TYPE: Nucleic Acid
342
             (C) STRANDEDNESS: Single
343
             (D) TOPOLOGY: Linear
        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 9:
345
348
    CGGGCCCTGC GGGCGCGGG CTGAAGGCGG AACCACGACG GGCAGAGAGC 50
    ACGGAGCCGG GAAGCCCCTG GGCGCCCGTC GGAGGGCT
350
                                                ATG GAG 94
351
                                                Met Glu
352
354
    Gln Arg Pro Arg Gly Cys Ala Ala Val Ala Ala Ala Leu
355
356
                                 10
358
    CTC CTG GTG CTG GGG GCC CGG GCC CAG GGC GCC ACT 172
359
    Leu Leu Val Leu Leu Gly Ala Arg Ala Gln Gly Gly Thr
360
                     20
362
    CGT AGC CCC AGG TGT GAC TGT GCC GGT GAC TTC CAC AAG 211
363
    Arg Ser Pro Arg Cys Asp Cys Ala Gly Asp Phe His Lys
364
         30
                             35
    AAG ATT GGT CTG TTT TGT TGC AGA GGC TGC CCA GCG GGG 250
366
367
    Lys Ile Gly Leu Phe Cys Cys Arg Gly Cys Pro Ala Gly
368
                 45
370
    CAC TAC CTG AAG GCC CCT TGC ACG GAG CCC TGC GGC AAC 289
371
    His Tyr Leu Lys Ala Pro Cys Thr Glu Pro Cys Gly Asn
372
                         60
374
    TCC ACC TGC CTT GTG TGT CCC CAA GAC ACC TTC TTG GCC 328
375
    Ser Thr Cys Leu Val Cys Pro Gln Asp Thr Phe Leu Ala
376
             70
                                 75
378
    TGG GAG AAC CAC CAT AAT TCT GAA TGT GCC CGC TGC CAG 367
379
    Trp Glu Asn His His Asn Ser Glu Cys Ala Arg Cys Gln
380
                     85
                                         90
382 GCC TGT GAT GAG CAG GCC TCC CAG GTG GCG CTG GAG AAC 406
```

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/993,234

DATE: 01/16/2002

TIME: 18:33:09

Input Set : N:\Crf3\RULE60\09993234.raw Output Set: N:\CRF3\01162002\1993234.raw

L:26 M:220 C: Keyword misspelled or invalid format, [(A) APPLICATION NUMBER:] L:27 M:220 C: Keyword misspelled or invalid format, [(B) FILING DATE:]

L:480 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:9